GCP-10 Series  
Genset Control Package  

**APPLICATIONS**

The GCP-10 Series products are designed to provide stand-by operation and AMF (automatic mains failure) emergency power in single unit applications. The combination of functions and compact size of the GCP-10 Series controls help to simplify the engine control design. The digital display offers a user friendly interface to set up the unit as well as monitor the operation and display any of the alarms.

The GCP-11 is a complete generator set control package designed to provide start/stop logic and protection for gensets. This could be for a stand-by emergency application or an application where the generator will not run in parallel with the utility. The GCP-11 is activated by closing a single input that will start the genset and close the GCB. Configurable timers can be programmed to provide a pre-glow or purge cycle prior to engine starting. Multiple engine crank attempts are provided with an alarm for an unsuccessful start. Protection is provided for both the engine and the generator. Engine speed is monitored to provide over-speed protection. Twelve discrete inputs can be programmed for alarms or shutdowns. Generator voltage PT’s and current CT’s provide generator protection.

The GCP-12 is designed for automated stand-by generator sets and includes Automatic Mains Failure (AMF) recognition with circuit breaker control for an open transition function. Closing a single input will activate the control to monitor the mains voltage waiting for a failure. Upon detection of a failure the control will start the engine, open the mains breaker, then close the generator breaker. When the mains returns the generator breaker is opened and the mains breaker is closed (operating time approximately 300 ms). This is followed by an engine cool down period and then the engine is stopped.

The GCP-12/X includes two analog input signals (0/4..20 mA) that can be used for engine protection monitoring such as oil pressure and engine cool-ant temperature.

**DESCRIPTION**

- Start/stop logic for Diesel/Gas engines
- Engine pre-glow or purge control
- Battery voltage monitoring
- Oper.hours/start/maintenance counter
- Configurable alarm set points
- Config. delays for each protection
- Magnetic/switching Pickup input
- 12 configurable discrete alarm inputs
- Two-line LC display
- Push-buttons for direct control
- Multi level password protection
- Gen. over-/undervoltage (59/27)
- Gen. over-/underfrequency (810/U)

**GCP-11 (unique features)**

- True RMS voltage (generator)
- True RMS current (generator)
- kWh meter
- 9 configurable/programmable relays
- Gen. reverse/reduced power (32R/F)
- Gen. overload (32)
- Gen. load imbalance (46)
- Gen. time-overcurrent (50)

**GCP-12 (unique features)**

- True RMS voltage (generator/mains)
- Mains over-/undervoltage (59/27)
- Mains over-/underfrequency (810/U)
- 8 configurable/programmable relays
- 2 conf. analog measuring inputs (0/4..20 mA; Package GCP-12/X)

- Single unit operation
- AMF auto start/stop
- Complete engine and generator protection in one unit
- True RMS sensing
- Counters for kWh, engine starts, operating hours, maintenance call
- Freely configurable discrete and analog alarm inputs
- Freely configurable relay outputs
- PC and front panel configurable
- Multi level password protection
- UL/cUL Listed
SPECIFICATIONS

Accuracy................................ ................................ .. Class 1
Power supply .. 12/24 Vdc (8..32 Vdc; min. 9.5 Vdc for start)
Intrinsic consumption ............................................ max. 15 W
Ambient temperature ................................ -20..70 °C
Ambient humidity ............................................. 95 %, non-condensing

Voltage
Rated: [1] 57/100(120) Vac... or [4] 230/400 Vac
UL: [1] max. 150 Vac or [4] max. 300 Vac
Setting range: [1] 50..125 Vac or [4] 200..440 Vac
Measuring frequency............................ 50/60 Hz (40..70 Hz)
Linear measuring range up to ......................... 1.3×Un
Input resistance ........................................ [1] 0.21 MΩ, [4] 0.7 MΩ
Max. power consumption per path ................. < 0.15 W

Current..................................................................[../1] ../1 A or [../5] ../5 A
Current-carrying capacity.................................... 3.0×In
Load ................................................................. < 0.15 VA
Rated short-time current (1 s) .................. [../1] 50×In, [../5] 10×In

Discrete inputs........................................... metallically separated
Input range ............................................. 12/24 Vdc (4..40 Vdc)
Input resistance ........................................ approx. 6.7 kΩ

Relay outputs........................................... metallically separated
Contact material..............................................AgCdO
Load (GP),............................................. 24 Vdc@2 Adc, 250 Vac@2 Aac
Pilot duty (PD) ............................................. 24 Vdc@1 Adc

Analog input ........................................... freely scaleable
Type ................................................................. 0/4..20 mA
Resolution ................................................... 10 Bit

Housing ................................................. Type APRANORM DIN 43 700
Dimensions.............................................. 144×96×118 mm
Front cutout ................................................ 138×88 mm
Connection ............................................. screw/plug terminals depending
on connector 1.5 mm² or 2.5 mm²

Protection system ......................................... Insulating surface

Disturbance test (CE) ................................ tested according to
applicable EN guidelines

Listings ........................................... UL/cUL listed (voltages up to 300 Vac)
for ordinary loc., file E212970

DIMENSIONS

Side view

Front view

PC configuration connector

Bottom view

Back view with connecting terminals

2003-01-31 | GCP10-AMG4 Dimensions g4ww-0503-ab.skl
The socket for the PC parameterization is situated on the side of the unit. This is where the accompanying DIREKT-PARAKABEL has to be plugged in.

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FEATURES OVERVIEW

<table>
<thead>
<tr>
<th>Control</th>
<th>GCP-11</th>
<th>GCP-12</th>
<th>GCP-12/X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator voltage measuring</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Generator current measuring</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mains voltage measuring</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Breaker control logic</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Isolated single-unit operation</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>AMF (auto mains failure op.)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Stand-by operation</td>
<td></td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Open transition (break-before-make)</td>
<td>✔</td>
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<thead>
<tr>
<th>Accessories</th>
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<tr>
<td>Start/stop logic for Diesel/Gas engines</td>
<td>✔</td>
<td>✔</td>
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</tr>
<tr>
<td>kWh counter</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating hours/start/maintenance counter</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Configuration via PC</td>
<td>✔</td>
<td>✔</td>
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<table>
<thead>
<tr>
<th>Protection</th>
<th>GCP-11</th>
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<tbody>
<tr>
<td>Generator: voltage/frequency</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Generator: overload</td>
<td>✔</td>
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<tr>
<td>Generator: reverse power</td>
<td>✔</td>
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<tr>
<td>Generator: reduced power</td>
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<td>✔</td>
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<tr>
<td>Generator: load imbalance</td>
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<tr>
<td>Generator: time-overcurrent (TOC)</td>
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<td>✔</td>
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<tr>
<th>I/O's</th>
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<tbody>
<tr>
<td>Magnetic/switching Pickup</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Discrete alarm inputs (configurable)</td>
<td>12</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Relay outputs (configurable)</td>
<td>9</td>
<td>8</td>
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<tr>
<td>Analog inputs (configurable)</td>
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<td>2</td>
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<tr>
<th>Listings/Approvals</th>
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<tbody>
<tr>
<td>UL/ULC, listed</td>
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<td>✔</td>
<td>✔</td>
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#1 Cable incl. software necessary (DPC)
#2 [T1=..[T2] = 0/4..20 mA

APPLICATIONS

For more information contact: